

## NOTES ON THE ALEYRODIDAE OF JAPAN (HOMOPTERA) VII.

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### *Pentaleyrodes yasumatsui* n. sp.

(Pupa case) Black, very narrowly grayish brown on the margin, sometimes widely pale at the ends of the transverse suture between the thorax and abdomen, with 2 pairs of pale patches on the cephalothorax, and a pair of longitudinal pale stripes on the abdomen; slight wax present along the whole margin. Elliptic, sclerotised, but not so strongly, not or scarcely constricted on the cephalothorax, flattened. Mid-thoracic suture prominent, reaching the margin; thoracic segments distinct, suture between the head and prothorax wider than other thoracic sutures, translucent; transverse suture between the thorax and abdomen not reaching the margin, prominent; abdominal segments distinct, suture between the 1st and 2nd abdominal segments straight, the 8th segment with a pair of small transverse translucent parts on the median area along the anterior margin. Dorsum distinctly reticulate except on the median narrow part, lacking ridges and granules, with many very small circular translucent pores scattered except on the narrow marginal area, and with 32 long fine setae arranged in a single row along the whole margin, which are subequal in length, each arising from a very small tubercle; the tubercles wider than long, much constricted near the base, nearly as wide as the marginal teeth. Thoracic tracheal folds, pores and combs absent. Caudal furrow long, very narrow, expanded at the base, lacking distinct markings, with no pore at the hind end. Vasiform orifice small, nearly as long as wide (including the margin), thickened on the margin, not notched at the hind end, with a few very small indistinct teeth on the latero-posterior margin; anterior marginal area moderately expanded, defined from the 8th abdominal segment. Operculum wider than long, rounded on the side, truncate on the hind margin, occupying most of the orifice. Lingula not exposed. Marginal teeth distinct, rather large, separated from each other, in 2 rows; outer

teeth much wider than long, broadly rounded or truncate on the distal end, widened towards the base, 6 of them occupying a space of 0.092 mm; distances between the teeth narrower than the teeth; inner teeth hemispherical, sometimes directed upwards. Pupa case—1.27 mm long, 0.97 mm wide. Vasiform orifice including margin—0.051 mm wide. Caudal furrow—0.161 mm long. Marginal dorsal seta—0.14 mm.

Host.—*Litsea glauca* (LAURACEAE).

Habitat.—Japan: Hikosan, Fukuoka Prefecture.

10 specimens were taken by Mr. K. Yasumatsu, November 8, 1938.

Differs from *Pentaleyrodes cinnamomi* TAKAHASHI in the pupa case being narrower, sclerotised, black and with prominent paler areas, the somewhat larger marginal teeth, and in the meso- and metanotum more distinctly defined.

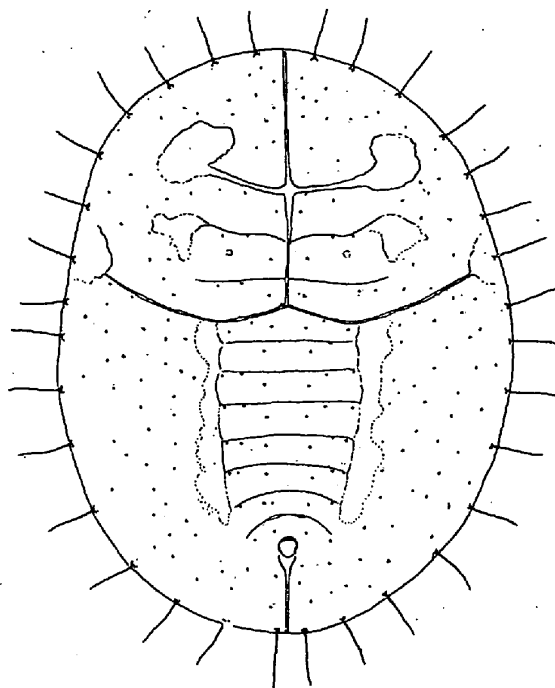


Fig. 1. *Pentaleyrodes yasumatsui* n. sp.  
Pupa case.

#### *Aleyrodes taiheisanus* n. sp.

(Pupa case) White, with very long white waxy secretions along the whole margin. Elliptic, thin, not constricted, not indented at the hind end. Mid-thoracic suture thin, nearly reaching the margin; suture between the meso- and metanotum thin; suture between the thorax and abdomen not reaching the margin; abdominal segments distinct, without markings. Dorsum without papillae and prominent pores, with a pair of rather long fine setae near the vasiform orifice as usual, and a pair of very long setae near the hind end; 10 or 12 short fine setae arranged in a row along the margin of the anterior half of cephalothorax, which are equal in length, far reaching beyond the margin, and as long as the marginal usual setae;

10 or 12 similar setae also present along the margin of abdomen except on the basal part. Thoracic tracheal folds and pores, and caudal furrow absent. Vasiform orifice rather large, as long as wide (including the anterior marginal area), truncate at the hind end, lacking teeth, with a few marginal sculptures; the anterior marginal area expanded, defined; distance between the orifice and hind end of pupa case as long as the orifice. A short concave present adjacent to the hind margin of vasiform orifice. Operculum wider than long, occupying slightly more than half the orifice. Lingula knobbed, reaching the hind end of vasiform orifice, with a pair of long apical setae. Marginal teeth small, but distinct, sclerotised, wider than long, very broadly rounded or nearly truncate on the distal edge, somewhat broadened towards the base, in a row, 16 or 17 of them occupying a space of about 0.092 mm; 2 pairs of usual marginal setae rather long. Pupa case—0.762 mm long, 0.485 mm wide. Vasiform orifice—0.051 mm wide. Submarginal seta—0.023 mm. Long seta at hind end—0.074 mm.

Host.—*Yushunia randaiensis* (LAURACEAE).

Habitat.—Formosa: Taiheizan (altitude 6000 feet).

Some pupa cases were collected by me on October 14, 1937. Allied to *Aleyrodes akebiae* KAWANA, differing, however, in lacking submarginal setae on the middle part of pupa case, the marginal teeth more developed, the suture between the thorax and abdomen produced anteriorly at the middle, and in other structures. Resembles *Pealius rhododendri* TAKAHASHI, *Pealius damnacanthi* TAKAHASHI, *Pealius psychotriae* TAKAHASHI and *Pealius polygoni* TAKAHASHI, but much different from them.

*Taiwanaleyrodes carpini* n. sp.

(Pupa case) White, with 3 dark brown patches, without wax evident. Elongate, narrowed posteriorly, somewhat pointed bluntly at the front end, not constricted, a little indented at the hind end. Mid-thoracic suture reaching the margin of dorsal disk; metanotum faintly defined from the mesonotum; suture between the thorax and abdomen reaching the margin of dorsal disk; abdominal segments distinct. Submarginal area defined except on the hind end, narrow, without distinct markings. Dorsum with numerous very small granules scattered, which are sclerotised and scarce on the median areas of the hind part of thorax and the 3rd~8th abdominal

segments, and on the hind end; and some of them are sharply pointed and conical. Cephalothorax with a pair of large rounded tubercle-like markings on the pronotum, and also on the mesonotum, and 2 pairs of similar ones on the metanotum; a pair of long simple setae present anteriorly. Abdomen with a pair of smaller tubercle-like markings and a pair of hairs on the basal segment, and with longitudinal wavy markings on the median area of each segment; a pair of long fine setae present near the vasiform orifice; a pair of longer setae near the hind end. Thoracic tracheal folds very short, the clefts indistinct, very shallow, wide, without teeth. Caudal furrow distinct, thickened on the margin, slightly narrowed towards the hind end, not expanded basally, rather wide, as long as the vasiform orifice including the margin, lacking distinct markings; the cleft small, widely opening, with no tooth. Vasiform orifice rather large, circular, pointed at the hind end, as long as wide (including the margin), distinctly notched at the hind end, thickened on the lateral margin, without teeth; the notch circular; the anterior marginal area expanded, defined from the 8th abdominal segment. Operculum occupying two-thirds the orifice. Margin with 2 pairs of usual setae; marginal teeth minute, triangular, rounded at the apex, much wider than long, in a row. Ventral submarginal area well defined, narrow, with the mesal margin being wavy and sclerotised. Pupa case—0.72 mm long, 0.42 mm wide. Dorsal submarginal area—about 0.023 mm wide. Vasiform orifice including margin—0.046 mm long. Caudal furrow at middle—0.009 mm wide.

Host.—*Carpinus* sp.

Habitat. — Formosa: Taiheizan (Mururoafu).

Some pupa cases were taken by

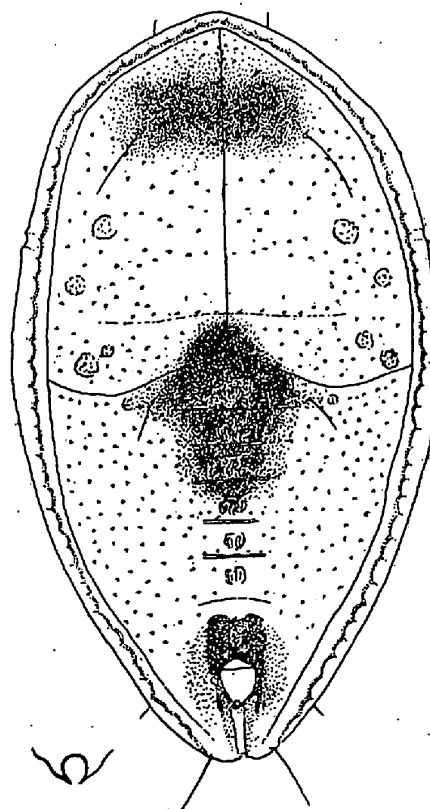


Fig. 2. *Taiwanaleyrodes carpini* n. sp.  
Pupa case and hind end  
of vasiform orifice.

me on September 20, 1938.

Closely related to *Taiwanaleyrodes pyracanthae* TAKAHASHI, which was originally described under the genus *Aleurotuberculatus* TAKAHASHI, but differs in the colour, the presence of longer dorsal setae, the caudal furrow being wider, the anterior marginal area of vasiform orifice expanded and defined, the submarginal area without distinct markings, and in other characters. Different from *Taiwanaleyrodes meliosmae* TAKAHASHI in the larger size, the presence of tubercle-like markings on the dorsum, the vasiform orifice being more deeply notched at the hind end, the notch circular, etc.

*Taiwanaleyrodes carpini* TAKAHASHI, var. *yushuniae* n. var.

(Pupa case) Differs from the typical form in the following characters: White, with no dark markings. A few of the dorsal granules elongated, longer than wide, spine-like, in some individuals.

Host.—*Yushunia randaicensis* (LAURACEAE).

Habitat.—Formosa: Taiheizan (Mururoafu).

Many specimens were taken by me on September 20, 1938. The genus *Taiwanaleyrodes* TAKAHASHI is now known from India, Malaya and Formosa, and all the described species from India and Malaya are wider in shape than the Formosan forms described in this paper.

*Taiwanaleyrodes montanus* n. sp.

(Pupa case) Differs from *Taiwanaleyrodes pyracanthae* TAKAHASHI as follows: Entirely black, not so sclerotised on the median area of dorsum. Submarginal area without markings, which are parallel to the mesal wavy margin. Caudal furrow wider, somewhat tapering. Anterior marginal area of the vasiform orifice expanded, defined from the 8th abdominal segment.

Pupa case—0.77 mm long, 0.45 mm wide. Vasiform orifice including margin—0.05 mm long, 0.046 mm wide. Caudal furrow—0.046 mm long, 0.012 mm wide at base. Submarginal area of dorsum—about 0.03 mm wide.

Host.—A plant of the Lauraceae.

Habitat.—Formosa: Taiheizan.

Some specimens were collected by me on October 14, 1937. The pupa case is without secretions and the dorsum becomes pale brownish, with a

few small irregular paler areas on the latero-posterior part of cephalothorax and on the dorsal disk of abdomen, when treated with caustic potash. Some of the dorsal granules are conical and pointed apically as in *Taiwanaleyrodes pyracanthae* TAKAHASHI. Differs from *Taiwanaleyrodes meliosmae* TAKAHASHI in possessing blunt dorsal tubercles and larger dorsal granules, as well as in other structures.

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